



$$I(J^P) = 0(\frac{1}{2}^+) \text{ Status: } ***$$

The parity of the Λ_c^+ is defined to be positive (as are the parities of the proton, neutron, and Λ). The quark content is udc . Results of an analysis of $pK^-\pi^+$ decays (JEZABEK 92) are consistent with $J = 1/2$. Nobody doubts that the spin is indeed $1/2$.

NODE=S033

The only new measurements since our 2010 Review are of limits on rare or forbidden $\Lambda_c^+ \rightarrow p\ell^+\ell^-$ and $\bar{p}\ell^+\ell^+$ modes.

We have omitted some results that have been superseded by later experiments. The omitted results may be found in earlier editions.

$\Lambda_c^+ \text{ MASS}$

Our value in 2004, 2284.9 ± 0.6 MeV, was the average of the measurements now filed below as "not used." The BABAR measurement is so much better that we use it alone. Note that it is about 2.6 (old) standard deviations above the 2004 value.

NODE=S033M

The fit also includes $\Sigma_c - \Lambda_c^+$ and $\Lambda_c^{*-} - \Lambda_c^+$ mass-difference measurements, but this doesn't affect the Λ_c^+ mass. The new (in 2006) Λ_c^+ mass simply pushes all those other masses higher.

NODE=S033M

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
2286.46±0.14 OUR FIT				
2286.46±0.14	4891	¹ AUBERT,B	05S BABR	$\Lambda K_S^0 K^+$ and $\Sigma^0 K_S^0 K^+$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
2284.7 ± 0.6 ± 0.7	1134	AVERY	91 CLEO	Six modes
2281.7 ± 2.7 ± 2.6	29	ALVAREZ	90B NA14	$pK^-\pi^+$
2285.8 ± 0.6 ± 1.2	101	BARLAG	89 NA32	$pK^-\pi^+$
2284.7 ± 2.3 ± 0.5	5	AGUILAR...	88B LEBC	$pK^-\pi^+$
2283.1 ± 1.7 ± 2.0	628	ALBRECHT	88C ARG	$pK^-\pi^+, p\bar{K}^0, \Lambda 3\pi$
2286.2 ± 1.7 ± 0.7	97	ANJOS	88B E691	$pK^-\pi^+$
2281 ± 3	2	JONES	87 HBC	$pK^-\pi^+$
2283 ± 3	3	BOSETTI	82 HBC	$pK^-\pi^+$
2290 ± 3	1	CALICCHIO	80 HYBR	$pK^-\pi^+$

NODE=S033M

¹AUBERT,B 05S uses low-Q $\Lambda K_S^0 K^+$ and $\Sigma^0 K_S^0 K^+$ decays to minimize systematic errors. The error above includes systematic as well as statistical errors. Many cross checks and adjustments to properties of the BABAR detector, as well as the large number of clean events, make this by far the best measurement of the Λ_c^+ mass.

NODE=S033M;LINKAGE=AU

$\Lambda_c^+ \text{ MEAN LIFE}$

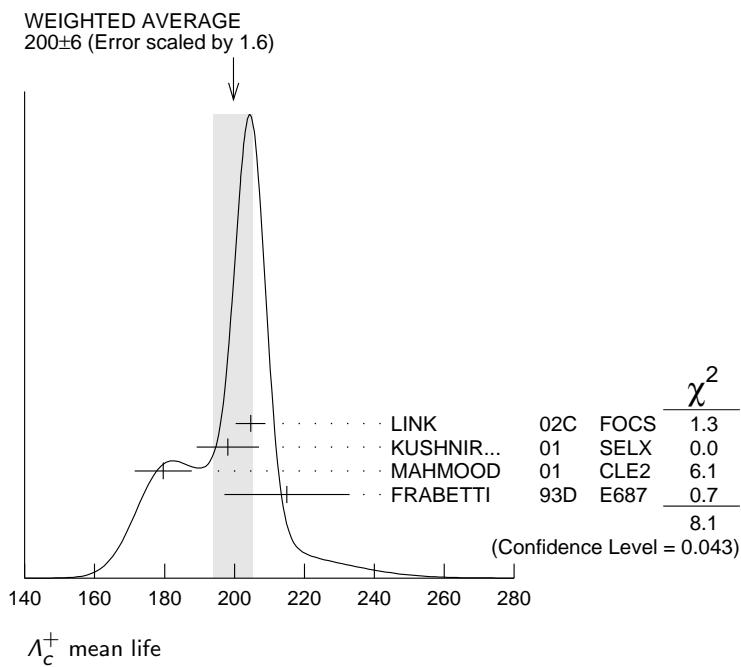
Measurements with an error $\geq 100 \times 10^{-15}$ s or with fewer than 20 events have been omitted from the Listings.

NODE=S033T

NODE=S033T

VALUE (10^{-15} s)	EVTS	DOCUMENT ID	TECN	COMMENT
200 ± 6 OUR AVERAGE	Error includes scale factor of 1.6. See the ideogram below.			
204.6 ± 3.4 ± 2.5	8034	LINK	02C FOCS	$pK^-\pi^+$
198.1 ± 7.0 ± 5.6	1630	KUSHNIR...	01 SELX	$\Lambda_c^+ \rightarrow pK^-\pi^+$
179.6 ± 6.9 ± 4.4	4749	MAHMOOD	01 CLE2	$e^+e^- \approx \gamma(4S)$
215 ± 16 ± 8	1340	FRABETTI	93D E687	$\gamma Be, \Lambda_c^+ \rightarrow pK^-\pi^+$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
180 ± 30 ± 30	29	ALVAREZ	90 NA14	$\gamma, \Lambda_c^+ \rightarrow pK^-\pi^+$
200 ± 30 ± 30	90	FRABETTI	90 E687	$\gamma Be, \Lambda_c^+ \rightarrow pK^-\pi^+$
196 ± 23 ± 20	101	BARLAG	89 NA32	$pK^-\pi^+ + c.c.$
220 ± 30 ± 20	97	ANJOS	88B E691	$pK^-\pi^+ + c.c.$

NODE=S033T



Λ_c^+ DECAY MODES

Nearly all branching fractions of the Λ_c^+ are measured relative to the $pK^-\pi^+$ mode, but there are no model-independent measurements of this branching fraction. We explain how we arrive at our value of $B(\Lambda_c^+ \rightarrow pK^-\pi^+)$ in a Note at the beginning of the branching-ratio measurements, below. When this branching fraction is eventually well determined, all the other branching fractions will slide up or down proportionally as the true value differs from the value we use here.

NODE=S033215;NODE=S033

NODE=S033

Mode	Fraction (Γ_i/Γ)	Scale factor/ Confidence level
Hadronic modes with a p: $S = -1$ final states		
$\Gamma_1 p\bar{K}^0$	(2.3 ± 0.6) %	NODE=S033;CLUMP=A DESIG=3
$\Gamma_2 pK^-\pi^+$	[a] (5.0 ± 1.3) %	DESIG=4
$\Gamma_3 p\bar{K}^*(892)^0$	[b] (1.6 ± 0.5) %	DESIG=5
$\Gamma_4 \Delta(1232)^{++}K^-$	(8.6 ± 3.0) $\times 10^{-3}$	DESIG=6
$\Gamma_5 \Lambda(1520)\pi^+$	[b] (1.8 ± 0.6) %	DESIG=38
$\Gamma_6 pK^-\pi^+$ nonresonant	(2.8 ± 0.8) %	DESIG=39
$\Gamma_7 p\bar{K}^0\pi^0$	(3.3 ± 1.0) %	DESIG=69
$\Gamma_8 p\bar{K}^0\eta$	(1.2 ± 0.4) %	DESIG=62
$\Gamma_9 p\bar{K}^0\pi^+\pi^-$	(2.6 ± 0.7) %	DESIG=7
$\Gamma_{10} pK^-\pi^+\pi^0$	(3.4 ± 1.0) %	DESIG=18
$\Gamma_{11} p\bar{K}^*(892)^-\pi^+$	[b] (1.1 ± 0.5) %	DESIG=8
$\Gamma_{12} p(K^-\pi^+)_{\text{nonresonant}}\pi^0$	(3.6 ± 1.2) %	DESIG=40
$\Gamma_{13} \Delta(1232)\bar{K}^*(892)$	seen	DESIG=19
$\Gamma_{14} pK^-\pi^+\pi^+\pi^-$	(1.1 ± 0.8) $\times 10^{-3}$	DESIG=23
$\Gamma_{15} pK^-\pi^+\pi^0\pi^0$	(8 ± 4) $\times 10^{-3}$	DESIG=41
$\Gamma_{16} pK^-\pi^+3\pi^0$		DESIG=42
Hadronic modes with a p: $S = 0$ final states		
$\Gamma_{17} p\pi^+\pi^-$	(3.5 ± 2.0) $\times 10^{-3}$	NODE=S033;CLUMP=D DESIG=30
$\Gamma_{18} p f_0(980)$	[b] (2.8 ± 1.9) $\times 10^{-3}$	DESIG=31
$\Gamma_{19} p\pi^+\pi^+\pi^-\pi^-$	(1.8 ± 1.2) $\times 10^{-3}$	DESIG=32
$\Gamma_{20} pK^+K^-$	(7.7 ± 3.5) $\times 10^{-4}$	DESIG=33
$\Gamma_{21} p\phi$	[b] (8.2 ± 2.7) $\times 10^{-4}$	DESIG=34
$\Gamma_{22} pK^+K^- \text{non-}\phi$	(3.5 ± 1.7) $\times 10^{-4}$	DESIG=70

Hadronic modes with a hyperon: $S = -1$ final states				
Γ_{23}	$\Lambda\pi^+$	(1.07 \pm 0.28) %	NODE=S033;CLUMP=B	
Γ_{24}	$\Lambda\pi^+\pi^0$	(3.6 \pm 1.3) %	DESIG=2	
Γ_{25}	$\Lambda\rho^+$	< 5 %	DESIG=49	
Γ_{26}	$\Lambda\pi^+\pi^+\pi^-$	(2.6 \pm 0.7) %	DESIG=52	
Γ_{27}	$\Sigma(1385)^+\pi^+\pi^-$, $\Sigma^{*+} \rightarrow$	(7 \pm 4) $\times 10^{-3}$	DESIG=1	
Γ_{28}	$\Sigma(1385)^-\pi^+\pi^+$, $\Sigma^{*-} \rightarrow$	(5.5 \pm 1.7) $\times 10^{-3}$	DESIG=100	
Γ_{29}	$\Lambda\pi^-\rho^0$	(1.1 \pm 0.5) %	DESIG=101	
Γ_{30}	$\Sigma(1385)^+\rho^0$, $\Sigma^{*+} \rightarrow \Lambda\pi^+$	(3.7 \pm 3.1) $\times 10^{-3}$	DESIG=102	
Γ_{31}	$\Lambda\pi^+\pi^+\pi^-$ nonresonant	< 8 $\times 10^{-3}$	DESIG=103	
Γ_{32}	$\Lambda\pi^+\pi^+\pi^-\pi^0$ total	(1.8 \pm 0.8) %	DESIG=104	
Γ_{33}	$\Lambda\pi^+\eta$	[b] (1.8 \pm 0.6) %	DESIG=79	
Γ_{34}	$\Sigma(1385)^+\eta$	[b] (8.5 \pm 3.3) $\times 10^{-3}$	DESIG=63	
Γ_{35}	$\Lambda\pi^+\omega$	[b] (1.2 \pm 0.5) %	DESIG=64	
Γ_{36}	$\Lambda\pi^+\pi^+\pi^-\pi^0$, no η or ω	< 7 $\times 10^{-3}$	DESIG=81	
Γ_{37}	$\Lambda K^+\bar{K}^0$	(4.7 \pm 1.5) $\times 10^{-3}$	CL=90%	S=1.2
Γ_{38}	$\Xi(1690)^0 K^+$, $\Xi^{*0} \rightarrow \Lambda\bar{K}^0$	(1.3 \pm 0.5) $\times 10^{-3}$	DESIG=80	
Γ_{39}	$\Sigma^0\pi^+$	(1.05 \pm 0.28) %	DESIG=65	
Γ_{40}	$\Sigma^+\pi^0$	(1.00 \pm 0.34) %	DESIG=76	
Γ_{41}	$\Sigma^+\eta$	(5.5 \pm 2.3) $\times 10^{-3}$	DESIG=9	
Γ_{42}	$\Sigma^+\pi^+\pi^-$	(3.6 \pm 1.0) %	DESIG=66	
Γ_{43}	$\Sigma^+\rho^0$	< 1.4 %	DESIG=21	
Γ_{44}	$\Sigma^-\pi^+\pi^+$	(1.7 \pm 0.5) %	DESIG=46	
Γ_{45}	$\Sigma^0\pi^+\pi^0$	(1.8 \pm 0.8) %	DESIG=59	
Γ_{46}	$\Sigma^0\pi^+\pi^+\pi^-$	(8.3 \pm 3.1) $\times 10^{-3}$	DESIG=50	
Γ_{47}	$\Sigma^+\pi^+\pi^-\pi^0$	—	DESIG=51	
Γ_{48}	$\Sigma^+\omega$	[b] (2.7 \pm 1.0) %	DESIG=48;OUR EVAL; \rightarrow UNCHECKED ←	
Γ_{49}	$\Sigma^+K^+K^-$	(2.8 \pm 0.8) $\times 10^{-3}$	DESIG=47	
Γ_{50}	$\Sigma^+\phi$	[b] (3.1 \pm 0.9) $\times 10^{-3}$	DESIG=35	
Γ_{51}	$\Xi(1690)^0 K^+$, $\Xi^{*0} \rightarrow$	(8.1 \pm 3.0) $\times 10^{-4}$	DESIG=43	
Γ_{52}	$\Sigma^+K^+K^-$ nonresonant	< 6 $\times 10^{-4}$	DESIG=75	
Γ_{53}	Ξ^0K^+	(3.9 \pm 1.4) $\times 10^{-3}$	DESIG=71	
Γ_{54}	$\Xi^-K^+\pi^+$	(5.1 \pm 1.4) $\times 10^{-3}$	DESIG=44	
Γ_{55}	$\Xi(1530)^0 K^+$	[b] (2.6 \pm 1.0) $\times 10^{-3}$	DESIG=27	
			DESIG=45	
Hadronic modes with a hyperon: $S = 0$ final states				
Γ_{56}	ΛK^+	(5.0 \pm 1.6) $\times 10^{-4}$	NODE=S033;CLUMP=G	
Γ_{57}	$\Lambda K^+\pi^+\pi^-$	< 4 $\times 10^{-4}$	DESIG=73	
Γ_{58}	Σ^0K^+	(4.2 \pm 1.3) $\times 10^{-4}$	DESIG=106	
Γ_{59}	$\Sigma^0K^+\pi^+\pi^-$	< 2.1 $\times 10^{-4}$	DESIG=74	
Γ_{60}	$\Sigma^+K^+\pi^-$	(1.7 \pm 0.7) $\times 10^{-3}$	DESIG=107	
Γ_{61}	$\Sigma^+K^*(892)^0$	[b] (2.8 \pm 1.1) $\times 10^{-3}$	DESIG=36	
Γ_{62}	$\Sigma^-K^+\pi^+$	< 1.0 $\times 10^{-3}$	DESIG=77	
			DESIG=78	
Doubly Cabibbo-suppressed modes				
Γ_{63}	$pK^+\pi^-$	< 2.3 $\times 10^{-4}$	CL=90%	NODE=S033;CLUMP=H
Semileptonic modes				
Γ_{64}	$\Lambda\ell^+\nu_\ell$	[c] (2.0 \pm 0.6) %	NODE=S033;CLUMP=E	
Γ_{65}	$\Lambda e^+\nu_e$	(2.1 \pm 0.6) %	DESIG=57	
Γ_{66}	$\Lambda\mu^+\nu_\mu$	(2.0 \pm 0.7) %	DESIG=67	
			DESIG=68	
Inclusive modes				
Γ_{67}	e^+ anything	(4.5 \pm 1.7) %	NODE=S033;CLUMP=C	
Γ_{68}	$p e^+$ anything	(1.8 \pm 0.9) %	DESIG=12	
Γ_{69}	Λe^+ anything		DESIG=13	
Γ_{70}	p anything	(50 \pm 16) %	DESIG=14	
Γ_{71}	p anything (no Λ)	(12 \pm 19) %	DESIG=53	
Γ_{72}	p hadrons		DESIG=54	
Γ_{73}	n anything	(50 \pm 16) %	DESIG=20	
Γ_{74}	n anything (no Λ)	(29 \pm 17) %	DESIG=55	
Γ_{75}	Λ anything	(35 \pm 11) %	DESIG=56	
Γ_{76}	Σ^\pm anything	[d] (10 \pm 5) %	DESIG=16	
Γ_{77}	3prongs	(24 \pm 8) %	DESIG=17	
			DESIG=82	

**$\Delta C = 1$ weak neutral current ($C1$) modes, or
Lepton Family number (LF), or Lepton number (L), or
Baryon number (B) violating modes**

NODE=S033;CLUMP=F

Γ_{78}	$p e^+ e^-$	$C1$	< 5.5	$\times 10^{-6}$	CL=90%	DESIG=108
Γ_{79}	$p \mu^+ \mu^-$	$C1$	< 4.4	$\times 10^{-5}$	CL=90%	DESIG=60
Γ_{80}	$p e^+ \mu^-$	LF	< 9.9	$\times 10^{-6}$	CL=90%	DESIG=109
Γ_{81}	$p e^- \mu^+$	LF	< 1.9	$\times 10^{-5}$	CL=90%	DESIG=110
Γ_{82}	$\bar{p} 2e^+$	L, B	< 2.7	$\times 10^{-6}$	CL=90%	DESIG=111
Γ_{83}	$\bar{p} 2\mu^+$	L, B	< 9.4	$\times 10^{-6}$	CL=90%	DESIG=112
Γ_{84}	$\bar{p} e^+ \mu^+$	L, B	< 1.6	$\times 10^{-5}$	CL=90%	DESIG=113
Γ_{85}	$\Sigma^- \mu^+ \mu^+$	L	< 7.0	$\times 10^{-4}$	CL=90%	DESIG=61

[a] See the note on " Λ_c^+ Branching Fractions" below.

LINKAGE=S33

[b] This branching fraction includes all the decay modes of the final-state resonance.

LINKAGE=SAD

[c] An ℓ indicates an e or a μ mode, not a sum over these modes.

LINKAGE=DX

[d] The value is for the sum of the charge states or particle/antiparticle states indicated.

LINKAGE=SG

CONSTRAINED FIT INFORMATION

An overall fit to 18 branching ratios uses 33 measurements and one constraint to determine 12 parameters. The overall fit has a $\chi^2 = 15.5$ for 22 degrees of freedom.

The following *off-diagonal* array elements are the correlation coefficients $\langle \delta x_i \delta x_j \rangle / (\delta x_i \cdot \delta x_j)$, in percent, from the fit to the branching fractions, $x_i \equiv \Gamma_i / \Gamma_{\text{total}}$. The fit constrains the x_i whose labels appear in this array to sum to one.

x_{23}	96								
x_{26}	97	93							
x_{37}	82	83	80						
x_{39}	95	98	92	82					
x_{42}	93	90	91	77	88				
x_{44}	82	79	80	68	78	80			
x_{46}	69	66	70	57	66	65	57		
x_{49}	88	85	86	72	84	93	75	61	
x_{50}	85	82	83	70	81	90	72	59	84
x_{54}	93	96	90	80	94	87	77	64	82
	x_2	x_{23}	x_{26}	x_{37}	x_{39}	x_{42}	x_{44}	x_{46}	x_{49}
									x_{50}

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NODE=S033219

Λ_c^+ BRANCHING RATIOS

— Hadronic modes with a p : $S = -1$ final states —

$\Gamma(p\bar{K}^0)/\Gamma(pK^-\pi^+)$					Γ_1/Γ_2
VALUE	EVTS	DOCUMENT ID	TECN	COMMENT	
0.47 ± 0.04 OUR AVERAGE					
$0.46 \pm 0.02 \pm 0.04$	1025	ALAM	98	CLE2 $e^+ e^- \approx \gamma(4S)$	
$0.44 \pm 0.07 \pm 0.05$	133	AVERY	91	CLEO $e^+ e^- 10.5$ GeV	
$0.55 \pm 0.17 \pm 0.14$	45	ANJOS	90	E691 γ Be 70–260 GeV	
$0.62 \pm 0.15 \pm 0.03$	73	ALBRECHT	88C ARG	$e^+ e^- 10$ GeV	

NODE=S033220

NODE=S033305

NODE=S033R5

NODE=S033R5

$\Gamma(pK^-\pi^+)/\Gamma_{\text{total}}$ See the note on " Λ_c^+ Branching Fractions" above. Γ_2/Γ

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
0.050±0.013 OUR FIT		PDG	02	See note at top of ratios • • • We do not use the following data for averages, fits, limits, etc. • • •

0.050±0.005±0.012	1205	2 JAFFE	00 CLE2	$e^+ e^-$ 10.52–10.58 GeV
0.041±0.010		3,4 ALBRECHT	920 ARG	$e^+ e^- \approx \Upsilon(4S)$
0.044±0.012		3,5 CRAWFORD	92 CLEO	$e^+ e^-$ 10.5 GeV

² JAFFE 00 assumes that a \bar{D} meson and an antiproton in opposite hemispheres tags for a Λ_c^+ in the hemisphere of the \bar{p} . The fraction of such $\bar{D}\bar{p}$ events with a $\Lambda_c^+ \rightarrow pK^-\pi^+$ decay then gives the $pK^-\pi^+$ branching fraction. See the paper for assumptions, caveats, etc.

³ To extract $\Gamma(pK^-\pi^+)/\Gamma_{\text{total}}$, we use $B(\bar{B} \rightarrow \Lambda_c^+ X) \cdot B(\Lambda_c^+ \rightarrow pK^-\pi^+) = (0.28 \pm 0.06)\%$, which is the average of measurements from ARGUS (ALBRECHT 88C) and CLEO (CRAWFORD 92).

⁴ ALBRECHT 920 measures $B(\bar{B} \rightarrow \Lambda_c^+ X) = (6.8 \pm 0.5 \pm 0.3)\%$.

⁵ CRAWFORD 92 measures $B(\bar{B} \rightarrow \Lambda_c^+ X) = (6.4 \pm 0.8 \pm 0.8)\%$.

NODE=S033R1

NODE=S033R1

NODE=S033R1

NODE=S033R1;LINKAGE=JF

NODE=S033R1;LINKAGE=DE

NODE=S033R1;LINKAGE=E1

NODE=S033R1;LINKAGE=D1

NODE=S033R2

NODE=S033R2

NODE=S033R2

NODE=S033R2;LINKAGE=AT

NODE=S033R3

NODE=S033R3

NODE=S033R3;LINKAGE=AT

NODE=S033R43

NODE=S033R43

NODE=S033R43

NODE=S033R43;LINKAGE=AT

NODE=S033R44

NODE=S033R44

NODE=S033R44;LINKAGE=AT

NODE=S033R76

NODE=S033R76

 $\Gamma(p\bar{K}^*(892)^0)/\Gamma(pK^-\pi^+)$ Γ_3/Γ_2 Unseen decay modes of the $\bar{K}^*(892)^0$ are included.

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
0.31±0.04 OUR AVERAGE				

0.29±0.04±0.03		6 AITALA	00 E791	$\pi^- N$, 500 GeV
0.35 ^{+0.06} _{-0.07} ±0.03	39	BOZEK	93 NA32	$\pi^- Cu$ 230 GeV
0.42±0.24	12	BASILE	81B CNTR	$pp \rightarrow \Lambda_c^+ e^- X$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.35±0.11		BARLAG	90D NA32	See BOZEK 93
6 AITALA 00 makes a coherent 5-dimensional amplitude analysis of $946 \pm 38 \Lambda_c^+ \rightarrow pK^-\pi^+$ decays.				

 $\Gamma(\Delta(1232)^{++}K^-)/\Gamma(pK^-\pi^+)$ Γ_4/Γ_2

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
0.17±0.04 OUR AVERAGE				Error includes scale factor of 1.1.

0.18±0.03±0.03		7 AITALA	00 E791	$\pi^- N$, 500 GeV
0.12 ^{+0.04} _{-0.05} ±0.05	14	BOZEK	93 NA32	$\pi^- Cu$ 230 GeV
0.40±0.17	17	BASILE	81B CNTR	$pp \rightarrow \Lambda_c^+ e^- X$

⁷ AITALA 00 makes a coherent 5-dimensional amplitude analysis of $946 \pm 38 \Lambda_c^+ \rightarrow pK^-\pi^+$ decays.

 $\Gamma(\Lambda(1520)\pi^+)/\Gamma(pK^-\pi^+)$ Γ_5/Γ_2 Unseen decay modes of the $\Lambda(1520)$ are included.

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
0.35±0.08 OUR AVERAGE				

0.34±0.08±0.05		8 AITALA	00 E791	$\pi^- N$, 500 GeV
0.40 ^{+0.18} _{-0.13} ±0.09	12	BOZEK	93 NA32	$\pi^- Cu$ 230 GeV

⁸ AITALA 00 makes a coherent 5-dimensional amplitude analysis of $946 \pm 38 \Lambda_c^+ \rightarrow pK^-\pi^+$ decays.

 $\Gamma(pK^-\pi^+ \text{nonresonant})/\Gamma(pK^-\pi^+)$ Γ_6/Γ_2

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
0.55±0.06 OUR AVERAGE				

0.55±0.06±0.04		9 AITALA	00 E791	$\pi^- N$, 500 GeV
0.56 ^{+0.07} _{-0.09} ±0.05	71	BOZEK	93 NA32	$\pi^- Cu$ 230 GeV

⁹ AITALA 00 makes a coherent 5-dimensional amplitude analysis of $946 \pm 38 \Lambda_c^+ \rightarrow pK^-\pi^+$ decays.

 $\Gamma(p\bar{K}^0\pi^0)/\Gamma(pK^-\pi^+)$ Γ_7/Γ_2

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
0.66±0.05±0.07	774	ALAM	98 CLE2	$e^+ e^- \approx \Upsilon(4S)$

$\Gamma(p\bar{K}^0\eta)/\Gamma(pK^-\pi^+)$ Unseen decay modes of the η are included.

<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.25±0.04±0.04	57	AMMAR	95	CLE2 $e^+e^- \approx \Upsilon(4S)$

 Γ_8/Γ_2

NODE=S033R67

NODE=S033R67

NODE=S033R67

 $\Gamma(p\bar{K}^0\pi^+\pi^-)/\Gamma(pK^-\pi^+)$

<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.51±0.06 OUR AVERAGE				
0.52±0.04±0.05	985	ALAM	98	CLE2 $e^+e^- \approx \Upsilon(4S)$
0.43±0.12±0.04	83	AVERY	91	CLEO $e^+e^- 10.5 \text{ GeV}$
0.98±0.36±0.08	12	BARLAG	90D	NA32 $\pi^- 230 \text{ GeV}$

 Γ_9/Γ_2

NODE=S033R28

NODE=S033R28

 $\Gamma(pK^-\pi^+\pi^0)/\Gamma(pK^-\pi^+)$

<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.67±0.04±0.11	2606	ALAM	98	CLE2 $e^+e^- \approx \Upsilon(4S)$

 Γ_{10}/Γ_2

NODE=S033R23

NODE=S033R23

 $\Gamma(pK^*(892)^-\pi^+)/\Gamma(p\bar{K}^0\pi^+\pi^-)$ Γ_{11}/Γ_9 Unseen decay modes of the $K^*(892)^-$ are included.

<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.44±0.14	17	ALEEV	94	BIS2 $nN 20\text{--}70 \text{ GeV}$

NODE=S033R16

NODE=S033R16

NODE=S033R16

 $\Gamma(p(K^-\pi^+)_{\text{nonresonant}}\pi^0)/\Gamma(pK^-\pi^+)$ Γ_{12}/Γ_2

<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.73±0.12±0.05	67	BOZEK	93	NA32 $\pi^- \text{ Cu } 230 \text{ GeV}$

NODE=S033R45

NODE=S033R45

 $\Gamma(\Delta(1232)\bar{K}^*(892))/\Gamma_{\text{total}}$ Γ_{13}/Γ

<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
seen	35	AMENDOLIA	87	SPEC $\gamma \text{ Ge-Si}$

NODE=S033R24

NODE=S033R24

 $\Gamma(pK^-\pi^+\pi^+\pi^-)/\Gamma(pK^-\pi^+)$ Γ_{14}/Γ_2

<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.022±0.015		BARLAG	90D	NA32 $\pi^- 230 \text{ GeV}$

NODE=S033R32

NODE=S033R32

 $\Gamma(pK^-\pi^+\pi^0\pi^0)/\Gamma(pK^-\pi^+)$ Γ_{15}/Γ_2

<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.16±0.07±0.03	15	BOZEK	93	NA32 $\pi^- \text{ Cu } 230 \text{ GeV}$

NODE=S033R46

NODE=S033R46

 $\Gamma(pK^-\pi^+3\pi^0)/\Gamma(pK^-\pi^+)$ Γ_{16}/Γ_2

<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
• • • We do not use the following data for averages, fits, limits, etc. • • •				

NODE=S033R47

NODE=S033R47

0.10±0.06±0.02

8

BOZEK

93

NA32

 $\pi^- \text{ Cu } 230 \text{ GeV}$

NODE=S033310

Hadronic modes with a p : $S=0$ final states $\Gamma(p\pi^+\pi^-)/\Gamma(pK^-\pi^+)$ Γ_{17}/Γ_2

<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.069±0.036		BARLAG	90D	NA32 $\pi^- 230 \text{ GeV}$

NODE=S033R33

NODE=S033R33

 $\Gamma(pf_0(980))/\Gamma(pK^-\pi^+)$ Γ_{18}/Γ_2 Unseen decay modes of the $f_0(980)$ are included.

<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.055±0.036		BARLAG	90D	NA32 $\pi^- 230 \text{ GeV}$

NODE=S033R34

NODE=S033R34

NODE=S033R34

 $\Gamma(p\pi^+\pi^+\pi^-\pi^-)/\Gamma(pK^-\pi^+)$ Γ_{19}/Γ_2

<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.036±0.023		BARLAG	90D	NA32 $\pi^- 230 \text{ GeV}$

NODE=S033R35

NODE=S033R35

 $\Gamma(pK^+K^-)/\Gamma(pK^-\pi^+)$ Γ_{20}/Γ_2

<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.015±0.006 OUR AVERAGE				Error includes scale factor of 2.1.

NODE=S033R36

NODE=S033R36

0.014±0.002±0.002 676 ABE 02C BELL $e^+e^- \approx \Upsilon(4S)$ 0.039±0.009±0.007 214 ALEXANDER 96C CLE2 $e^+e^- \approx \Upsilon(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

0.096±0.029±0.010 30 FRABETTI 93H E687 $\gamma \text{ Be}, \bar{E}_\gamma 220 \text{ GeV}$ 0.048±0.027 BARLAG 90D NA32 $\pi^- 230 \text{ GeV}$

$\Gamma(p\phi)/\Gamma(pK^-\pi^+)$ Γ_{21}/Γ_2 Unseen decay modes of the ϕ are included.

<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.0164±0.0032 OUR AVERAGE	Error includes scale factor of 1.2.			
0.015 ± 0.002 ± 0.002	345	ABE	02C BELL	$e^+ e^- \approx \gamma(4S)$
0.024 ± 0.006 ± 0.003	54	ALEXANDER	96C CLE2	$e^+ e^- \approx \gamma(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.040 ± 0.027		BARLAG	90D NA32	$\pi^- 230 \text{ GeV}$

 $\Gamma(pK^+ K^- \text{ non-}\phi)/\Gamma(pK^-\pi^+)$ Γ_{22}/Γ_2

<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.007±0.002±0.002	344	ABE	02C BELL	$e^+ e^- \approx \gamma(4S)$

—— Hadronic modes with a hyperon: $S = -1$ final states —— $\Gamma(\Lambda\pi^+)/\Gamma(pK^-\pi^+)$ Γ_{23}/Γ_2

<u>VALUE</u>	<u>CL%</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.214±0.016 OUR FIT	Error includes scale factor of 1.1.				
0.204±0.019 OUR AVERAGE					
0.217±0.013±0.020	750	LINK	05F FOCS	γ nucleus, $\bar{E}_\gamma \approx 180 \text{ GeV}$	
0.18 ± 0.03 ± 0.04		ALBRECHT	92 ARG	$e^+ e^- \approx 10.4 \text{ GeV}$	
0.18 ± 0.03 ± 0.03	87	AVERY	91 CLEO	$e^+ e^- 10.5 \text{ GeV}$	
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.33	90	ANJOS	90 E691	$\gamma\text{Be} 70\text{--}260 \text{ GeV}$	
<0.16	90	ALBRECHT	88C ARG	$e^+ e^- 10 \text{ GeV}$	

 $\Gamma(\Lambda\pi^+\pi^0)/\Gamma(pK^-\pi^+)$ Γ_{24}/Γ_2

<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.73±0.09±0.16	464	AVERY	94 CLE2	$e^+ e^- \approx \gamma(3S), \gamma(4S)$

 $\Gamma(\Lambda\rho^+)/\Gamma(pK^-\pi^+)$ Γ_{25}/Γ_2

<u>VALUE</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<0.95	95	AVERY	94 CLE2	$e^+ e^- \approx \gamma(3S), \gamma(4S)$

 $\Gamma(\Lambda\pi^+\pi^+\pi^-)/\Gamma(pK^-\pi^+)$ Γ_{26}/Γ_2

<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.525±0.032 OUR FIT				
0.522±0.032 OUR AVERAGE				

0.508±0.024±0.024	1356	LINK	05F FOCS	γ nucleus, $\bar{E}_\gamma \approx 180 \text{ GeV}$
0.65 ± 0.11 ± 0.12	289	AVERY	91 CLEO	$e^+ e^- 10.5 \text{ GeV}$
0.82 ± 0.29 ± 0.27	44	ANJOS	90 E691	$\gamma\text{Be} 70\text{--}260 \text{ GeV}$
0.94 ± 0.41 ± 0.13	10	BARLAG	90D NA32	$\pi^- 230 \text{ GeV}$
0.61 ± 0.16 ± 0.04	105	ALBRECHT	88C ARG	$e^+ e^- 10 \text{ GeV}$

 $\Gamma(\Sigma(1385)^+\pi^+\pi^-, \Sigma^{*+} \rightarrow \Lambda\pi^+)/\Gamma(\Lambda\pi^+\pi^+\pi^-)$ Γ_{27}/Γ_{26}

<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.28±0.10±0.08	LINK	05F FOCS	γ nucleus, $\bar{E}_\gamma \approx 180 \text{ GeV}$

 $\Gamma(\Sigma(1385)^-\pi^+\pi^+, \Sigma^{*-} \rightarrow \Lambda\pi^-)/\Gamma(\Lambda\pi^+\pi^+\pi^-)$ Γ_{28}/Γ_{26}

<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.21±0.03±0.02	LINK	05F FOCS	γ nucleus, $\bar{E}_\gamma \approx 180 \text{ GeV}$

 $\Gamma(\Lambda\pi^+\rho^0)/\Gamma(\Lambda\pi^+\pi^+\pi^-)$ Γ_{29}/Γ_{26}

<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.40±0.12±0.12	LINK	05F FOCS	γ nucleus, $\bar{E}_\gamma \approx 180 \text{ GeV}$

 $\Gamma(\Sigma(1385)^+\rho^0, \Sigma^{*+} \rightarrow \Lambda\pi^+)/\Gamma(\Lambda\pi^+\pi^+\pi^-)$ Γ_{30}/Γ_{26}

<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.14±0.09±0.07	LINK	05F FOCS	γ nucleus, $\bar{E}_\gamma \approx 180 \text{ GeV}$

 $\Gamma(\Lambda\pi^+\pi^+\pi^- \text{ nonresonant})/\Gamma(\Lambda\pi^+\pi^+\pi^-)$ Γ_{31}/Γ_{26}

<u>VALUE</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<0.3	90	LINK	05F FOCS	γ nucleus, $\bar{E}_\gamma \approx 180 \text{ GeV}$

NODE=S033R37

NODE=S033R37

NODE=S033R37

NODE=S033315

NODE=S033R8

NODE=S033R8

NODE=S033R55

NODE=S033R55

NODE=S033R58

NODE=S033R58

NODE=S033R11

NODE=S033R11

NODE=S033R94

NODE=S033R94

NODE=S033R95

NODE=S033R95

NODE=S033R96

NODE=S033R96

NODE=S033R97

NODE=S033R97

NODE=S033R98

NODE=S033R98

$\Gamma(p\bar{K}^0\pi^+\pi^-)/\Gamma(\Lambda\pi^+\pi^+\pi^-)$

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
2.6 ± 1.2		ALEEV	96	SPEC n nucleus, 50 GeV/c
4.3 ± 1.2	130	ALEEV	84	BIS2 n C 40–70 GeV

 Γ_9/Γ_{26}

NODE=S033R13
NODE=S033R13

 $\Gamma(\Lambda\pi^+\pi^+\pi^-\pi^0 \text{ total})/\Gamma(p\bar{K}^-\pi^+)$

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
0.36 ± 0.09 ± 0.09	50	10 CRONIN-HEN..03	CLE3	$e^+e^- \approx \Upsilon(4S)$

 Γ_{32}/Γ_2

NODE=S033R88
NODE=S033R88

10 CRONIN-HENNESSY 03 finds this channel to be dominantly $\Lambda\eta\pi^+$ and $\Lambda\omega\pi^+$; see below.

 $\Gamma(\Lambda\pi^+\eta)/\Gamma(p\bar{K}^-\pi^+)$ Γ_{33}/Γ_2

Unseen decay modes of the η are included.

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
0.36 ± 0.07 OUR AVERAGE				
0.41 ± 0.17 ± 0.10	11	CRONIN-HEN..03	CLE3	$e^+e^- \approx \Upsilon(4S)$
0.35 ± 0.05 ± 0.06	116	AMMAR	95	CLE2 $e^+e^- \approx \Upsilon(4S)$

NODE=S033R68
NODE=S033R68
NODE=S033R68

 $\Gamma(\Sigma(1385)^+\eta)/\Gamma(p\bar{K}^-\pi^+)$ Γ_{34}/Γ_2

Unseen decay modes of the $\Sigma(1385)^+$ and η are included.

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
0.17 ± 0.04 ± 0.03	54	AMMAR	95	CLE2 $e^+e^- \approx \Upsilon(4S)$

NODE=S033R70
NODE=S033R70
NODE=S033R70

 $\Gamma(\Lambda\pi^+\omega)/\Gamma(p\bar{K}^-\pi^+)$ Γ_{35}/Γ_2

Unseen decay modes of the ω are included.

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
0.24 ± 0.06 ± 0.06	32	CRONIN-HEN..03	CLE3	$e^+e^- \approx \Upsilon(4S)$

NODE=S033R90
NODE=S033R90
NODE=S033R90

 $\Gamma(\Lambda\pi^+\pi^-\pi^-\pi^0, \text{no } \eta \text{ or } \omega)/\Gamma(p\bar{K}^-\pi^+)$ Γ_{36}/Γ_2

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<0.13	90	CRONIN-HEN..03	CLE3	$e^+e^- \approx \Upsilon(4S)$

NODE=S033R89
NODE=S033R89

 $\Gamma(\Lambda K^+\bar{K}^0)/\Gamma(p\bar{K}^-\pi^+)$ Γ_{37}/Γ_2

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
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NODE=S033R71
NODE=S033R71

0.093 ± 0.018 OUR FIT Error includes scale factor of 1.7.

0.131 ± 0.020 OUR AVERAGE

0.142 ± 0.018 ± 0.022	251	LINK	05F FOCS	γ nucleus, $\bar{E}_\gamma \approx 180$ GeV
0.12 ± 0.02 ± 0.02	59	AMMAR	95 CLE2	$e^+e^- \approx \Upsilon(4S)$

 $\Gamma(\Xi(1690)^0 K^+, \Xi^{*0} \rightarrow \Lambda\bar{K}^0)/\Gamma(\Lambda K^+\bar{K}^0)$ Γ_{38}/Γ_{37}

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
0.28 ± 0.07 OUR AVERAGE				
0.32 ± 0.10 ± 0.04	84 ± 24	LINK	05F FOCS	γ nucleus, $\bar{E}_\gamma \approx 180$ GeV
0.26 ± 0.08 ± 0.03	93	ABE	02C BELL	$e^+e^- \approx \Upsilon(4S)$

NODE=S033R85
NODE=S033R85

 $\Gamma(\Lambda K^+\bar{K}^0)/\Gamma(\Lambda\pi^+)$ Γ_{37}/Γ_{23}

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
0.43 ± 0.08 OUR FIT Error includes scale factor of 2.0.				
0.395 ± 0.026 ± 0.036	460 ± 30	AUBERT	07U BABR	$e^+e^- \approx \Upsilon(4S)$

NODE=S033R03
NODE=S033R03

 $\Gamma(\Sigma^0\pi^+)/\Gamma(p\bar{K}^-\pi^+)$ Γ_{39}/Γ_2

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
0.210 ± 0.018 OUR FIT				
0.20 ± 0.04 OUR AVERAGE				
0.21 ± 0.02 ± 0.04	196	AVERY	94 CLE2	$e^+e^- \approx \Upsilon(3S), \Upsilon(4S)$
0.17 ± 0.06 ± 0.04		ALBRECHT	92 ARG	$e^+e^- \approx 10.4$ GeV

NODE=S033R38
NODE=S033R38

 $\Gamma(\Sigma^0\pi^+)/\Gamma(\Lambda\pi^+)$ Γ_{39}/Γ_{23}

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
0.98 ± 0.05 OUR FIT				
0.98 ± 0.05 OUR AVERAGE				
0.977 ± 0.015 ± 0.051	33k	AUBERT	07U BABR	$e^+e^- \approx \Upsilon(4S)$
1.09 ± 0.11 ± 0.19	750	LINK	05F FOCS	γ nucleus, $\bar{E}_\gamma \approx 180$ GeV

NODE=S033R92
NODE=S033R92

$\Gamma(\Sigma^+ \pi^0)/\Gamma(pK^- \pi^+)$					Γ_{40}/Γ_2	NODE=S033R53 NODE=S033R53
VALUE	EVTS	DOCUMENT ID	TECN	COMMENT		
0.20±0.03±0.03	93	KUBOTA	93	CLE2	$e^+ e^- \approx \gamma(4S)$	
$\Gamma(\Sigma^+ \eta)/\Gamma(pK^- \pi^+)$					Γ_{41}/Γ_2	
Unseen decay modes of the η are included.						
VALUE	EVTS	DOCUMENT ID	TECN	COMMENT		
0.11±0.03±0.02	26	AMMAR	95	CLE2	$e^+ e^- \approx \gamma(4S)$	NODE=S033R69 NODE=S033R69 NODE=S033R69
$\Gamma(\Sigma^+ \pi^+ \pi^-)/\Gamma(pK^- \pi^+)$					Γ_{42}/Γ_2	
VALUE	EVTS	DOCUMENT ID	TECN	COMMENT		
0.72±0.07 OUR FIT						NODE=S033R39 NODE=S033R39
0.69±0.08 OUR AVERAGE						
0.72±0.14	47 ± 9	VAZQUEZ-JA...08	SELX	Σ^- nucleus, 600 GeV		
0.74±0.07±0.09	487	KUBOTA	93	CLE2	$e^+ e^- \approx \gamma(4S)$	
0.54 ^{+0.18} -0.15	11	BARLAG	92	NA32	π^- Cu 230 GeV	
$\Gamma(\Sigma^+ \rho^0)/\Gamma(pK^- \pi^+)$					Γ_{43}/Γ_2	
VALUE	CL%	DOCUMENT ID	TECN	COMMENT		
<0.27	95	KUBOTA	93	CLE2	$e^+ e^- \approx \gamma(4S)$	NODE=S033R52 NODE=S033R52
$\Gamma(\Sigma^- \pi^+ \pi^+)/\Gamma(pK^- \pi^+)$					Γ_{44}/Γ_2	
VALUE	EVTS	DOCUMENT ID	TECN	COMMENT		
0.33 ± 0.06 OUR FIT						NODE=S033R04 NODE=S033R04
0.314±0.067	30 ± 6	VAZQUEZ-JA...08	SELX	Σ^- nucleus, 600 GeV		
$\Gamma(\Sigma^- \pi^+ \pi^+)/\Gamma(\Sigma^+ \pi^+ \pi^-)$					Γ_{44}/Γ_{42}	
VALUE	EVTS	DOCUMENT ID	TECN	COMMENT		
0.46±0.09 OUR FIT						NODE=S033R64 NODE=S033R64
0.53±0.15±0.07	56	FRABETTI	94E E687	γ Be, \bar{E}_γ 220 GeV		
$\Gamma(\Sigma^0 \pi^+ \pi^0)/\Gamma(pK^- \pi^+)$					Γ_{45}/Γ_2	
VALUE	EVTS	DOCUMENT ID	TECN	COMMENT		
0.36±0.09±0.10	117	AVERY	94	CLE2	$e^+ e^- \approx \gamma(3S), \gamma(4S)$	NODE=S033R56 NODE=S033R56
$\Gamma(\Sigma^0 \pi^+ \pi^+ \pi^-)/\Gamma(pK^- \pi^+)$					Γ_{46}/Γ_2	
VALUE	EVTS	DOCUMENT ID	TECN	COMMENT		
0.17±0.04 OUR FIT						NODE=S033R57 NODE=S033R57
0.21±0.05±0.05	90	AVERY	94	CLE2	$e^+ e^- \approx \gamma(3S), \gamma(4S)$	
$\Gamma(\Sigma^0 \pi^+ \pi^+ \pi^-)/\Gamma(\Lambda \pi^+ \pi^+ \pi^-)$					Γ_{46}/Γ_{26}	
VALUE	EVTS	DOCUMENT ID	TECN	COMMENT		
0.31±0.08 OUR FIT						NODE=S033R93 NODE=S033R93
0.26±0.06±0.09	480	LINK	05F FOCS	γ nucleus, $\bar{E}_\gamma \approx 180$ GeV		
$\Gamma(\Sigma^+ \omega)/\Gamma(pK^- \pi^+)$					Γ_{48}/Γ_2	
Unseen decay modes of the ω are included.						
VALUE	EVTS	DOCUMENT ID	TECN	COMMENT		
0.54±0.13±0.06	107	KUBOTA	93	CLE2	$e^+ e^- \approx \gamma(4S)$	NODE=S033R54 NODE=S033R54 NODE=S033R54
$\Gamma(\Sigma^+ K^+ K^-)/\Gamma(pK^- \pi^+)$					Γ_{49}/Γ_2	
VALUE	EVTS	DOCUMENT ID	TECN	COMMENT		
0.056±0.008 OUR FIT						NODE=S033R40 NODE=S033R40
0.070±0.011±0.011	59	AVERY	93	CLE2	$e^+ e^- \approx 10.5$ GeV	
$\Gamma(\Sigma^+ K^+ K^-)/\Gamma(\Sigma^+ \pi^+ \pi^-)$					Γ_{49}/Γ_{42}	
VALUE	EVTS	DOCUMENT ID	TECN	COMMENT		
0.078±0.009 OUR FIT						NODE=S033R78 NODE=S033R78
0.074±0.009 OUR AVERAGE						
0.076±0.007±0.009	246	ABE	02C BELL	$e^+ e^- \approx \gamma(4S)$		
0.071±0.011±0.011	103	LINK	02G FOCS	γ nucleus, ≈ 180 GeV		
$\Gamma(\Sigma^+ \phi)/\Gamma(pK^- \pi^+)$					Γ_{50}/Γ_2	
Unseen decay modes of the ϕ are included.						
VALUE	EVTS	DOCUMENT ID	TECN	COMMENT		
0.062±0.010 OUR FIT						NODE=S033R48 NODE=S033R48 NODE=S033R48
0.069±0.023±0.016	26	AVERY	93	CLE2	$e^+ e^- \approx 10.5$ GeV	

$\Gamma(\Sigma^+ \phi)/\Gamma(\Sigma^+ \pi^+ \pi^-)$ Γ_{50}/Γ_{42} Unseen decay modes of the ϕ are included.

<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.087±0.012 OUR FIT				
0.086±0.012 OUR AVERAGE				

0.085±0.012±0.012 129 ABE 02C BELL $e^+ e^- \approx \gamma(4S)$
 0.087±0.016±0.006 57 LINK 02G FOCS γ nucleus, ≈ 180 GeV

 $\Gamma(\Xi(1690)^0 K^+, \Xi^{*0} \rightarrow \Sigma^+ K^-)/\Gamma(\Sigma^+ \pi^+ \pi^-)$ Γ_{51}/Γ_{42}

<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.023±0.005 OUR AVERAGE				

0.023±0.005±0.005 75 ABE 02C BELL $e^+ e^- \approx \gamma(4S)$
 0.022±0.006±0.006 34 LINK 02G FOCS γ nucleus, ≈ 180 GeV

 $\Gamma(\Sigma^+ K^+ K^- \text{ nonresonant})/\Gamma(\Sigma^+ \pi^+ \pi^-)$ Γ_{52}/Γ_{42}

<u>VALUE</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<0.018	90	ABE	02C	BELL $e^+ e^- \approx \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

<0.028 90 LINK 02G FOCS γ nucleus, ≈ 180 GeV

 $\Gamma(\Xi^0 K^+)/\Gamma(p K^- \pi^+)$ Γ_{53}/Γ_2

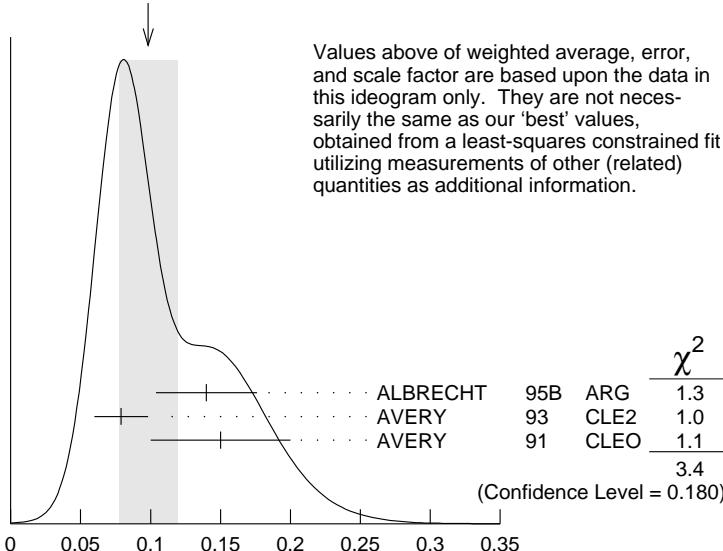
<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.078±0.013±0.013	56	AVERY	93	CLE2 $e^+ e^- \approx 10.5$ GeV

 $\Gamma(\Xi^- K^+ \pi^+)/\Gamma(p K^- \pi^+)$ Γ_{54}/Γ_2

<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.102±0.010 OUR FIT				Error includes scale factor of 1.1.
0.098±0.021 OUR AVERAGE				Error includes scale factor of 1.3. See the ideogram below.

0.14 ± 0.03 ± 0.02 34 ALBRECHT 95B ARG $e^+ e^- \approx 10.4$ GeV
 0.079±0.013±0.014 60 AVERY 93 CLE2 $e^+ e^- \approx 10.5$ GeV
 0.15 ± 0.04 ± 0.03 30 AVERY 91 CLEO $e^+ e^- 10.5$ GeV

WEIGHTED AVERAGE
 0.098±0.021 (Error scaled by 1.3)

 $\Gamma(\Xi^- K^+ \pi^+)/\Gamma(p K^- \pi^+)$ $\Gamma(\Xi(1530)^0 K^+)/\Gamma(p K^- \pi^+)$ Γ_{55}/Γ_2 Unseen decay modes of the $\Xi(1530)^0$ are included.

<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.052±0.014 OUR AVERAGE				

0.05 ± 0.02 ± 0.01 11 ALBRECHT 95B ARG $e^+ e^- \approx 10.4$ GeV
 0.053±0.016±0.010 24 AVERY 93 CLE2 $e^+ e^- \approx 10.5$ GeV

 $\Gamma(\Xi^- K^+ \pi^+)/\Gamma(\Lambda \pi^+)$ Γ_{54}/Γ_{23}

<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.47 ± 0.04 OUR FIT				
0.480±0.016±0.039	2665 ± 84	AUBERT	07U	BABR $e^+ e^- \approx \gamma(4S)$

NODE=S033R79

NODE=S033R79

NODE=S033R79

NODE=S033R84

NODE=S033R84

NODE=S033R80

NODE=S033R80

NODE=S033R49

NODE=S033R49

NODE=S033R29

NODE=S033R29

NODE=S033R50

NODE=S033R50

NODE=S033R50

NODE=S033R02

NODE=S033R02

Hadronic modes with a hyperon: $S = 0$ final states

$\Gamma(\Lambda K^+)/\Gamma(\Lambda \pi^+)$		Γ_{56}/Γ_{23}		
VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
0.047±0.009 OUR AVERAGE	Error includes scale factor of 1.8.			
0.044±0.004±0.003	1162±101	AUBERT	07U BABR	$e^+ e^- \approx \gamma(4S)$
0.074±0.010±0.012	265	ABE	02C BELL	$e^+ e^- \approx \gamma(4S)$

$\Gamma(\Lambda K^+ \pi^+ \pi^-)/\Gamma(\Lambda \pi^+)$		Γ_{57}/Γ_{23}		
VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<4.1 × 10⁻²	90	AUBERT	07U BABR	$e^+ e^- \approx \gamma(4S)$

$\Gamma(\Sigma^0 K^+)/\Gamma(\Sigma^0 \pi^+)$		Γ_{58}/Γ_{39}		
VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
0.040±0.006 OUR AVERAGE				
0.038±0.005±0.003	366 ± 52	AUBERT	07U BABR	$e^+ e^- \approx \gamma(4S)$
0.056±0.014±0.008	75	ABE	02C BELL	$e^+ e^- \approx \gamma(4S)$

$\Gamma(\Sigma^0 K^+ \pi^+ \pi^-)/\Gamma(\Sigma^0 \pi^+)$		Γ_{59}/Γ_{39}		
VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<2.0 × 10⁻²	90	AUBERT	07U BABR	$e^+ e^- \approx \gamma(4S)$

$\Gamma(\Sigma^+ K^+ \pi^-)/\Gamma(\Sigma^+ \pi^+ \pi^-)$		Γ_{60}/Γ_{42}		
VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
0.047±0.011±0.008	105	ABE	02C BELL	$e^+ e^- \approx \gamma(4S)$

$\Gamma(\Sigma^+ K^*(892)^0)/\Gamma(\Sigma^+ \pi^+ \pi^-)$		Γ_{61}/Γ_{42}		
VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
0.078±0.018±0.013	49	LINK	02G FOCS	γ nucleus, ≈ 180 GeV

$\Gamma(\Sigma^- K^+ \pi^+)/\Gamma(\Sigma^+ K^*(892)^0)$		Γ_{62}/Γ_{61}		
VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<0.35	90	LINK	02G FOCS	γ nucleus, ≈ 180 GeV

Doubly Cabibbo-suppressed modes

$\Gamma(p K^+ \pi^-)/\Gamma(p K^- \pi^+)$		Γ_{63}/Γ_2		
VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<0.0046	90	LINK	05K FOCS	$R = (0.05 \pm 0.26 \pm 0.02)\%$

Semileptonic modes

$\Gamma(\Lambda \ell^+ \nu_\ell)/\Gamma(p K^- \pi^+)$		Γ_{64}/Γ_2		
VALUE	CL%	DOCUMENT ID	TECN	COMMENT
0.41±0.05 OUR AVERAGE				
0.42±0.07	PDG	02	Our $\Gamma(\Lambda e^+ \nu_e)/\Gamma(p K^- \pi^+)$	
0.39±0.08	PDG	02	Our $\Gamma(\Lambda \mu^+ \nu_\mu)/\Gamma(p K^- \pi^+)$	

$\Gamma(\Lambda e^+ \nu_e)/\Gamma(p K^- \pi^+)$		Γ_{65}/Γ_2		
VALUE	CL%	DOCUMENT ID	TECN	COMMENT
0.42±0.07 OUR AVERAGE				
0.43±0.08	11,12 BERGFELD	94	CLE2	$e^+ e^- \approx \gamma(4S)$
0.38±0.14	12,13 ALBRECHT	91G ARG		$e^+ e^- \approx 10.4$ GeV

¹¹ BERGFELD 94 measures $\sigma(e^+ e^- \rightarrow \Lambda_c^+ X) \cdot B(\Lambda_c^+ \rightarrow \Lambda e^+ \nu_e) = (4.87 \pm 0.28 \pm 0.69) \text{ pb}$.
¹² To extract $\Gamma(\Lambda_c^+ \rightarrow \Lambda e^+ \nu_e)/\Gamma(\Lambda_c^+ \rightarrow p K^- \pi^+)$, we use $\sigma(e^+ e^- \rightarrow \Lambda_c^+ X) \cdot B(\Lambda_c^+ \rightarrow p K^- \pi^+) = (11.2 \pm 1.3) \text{ pb}$, which is the weighted average of measurements from ARGUS (ALBRECHT 96E) and CLEO (AVERY 91).

¹³ ALBRECHT 91G measures $\sigma(e^+ e^- \rightarrow \Lambda_c^+ X) \cdot B(\Lambda_c^+ \rightarrow \Lambda e^+ \nu_e) = (4.20 \pm 1.28 \pm 0.71) \text{ pb}$.

NODE=S033325

NODE=S033R81

NODE=S033R81

NODE=S033R82

NODE=S033R82

NODE=S033R01

NODE=S033R01

NODE=S033R86

NODE=S033R86

NODE=S033R86

NODE=S033R87

NODE=S033R87

NODE=S033345

NODE=S033R99

NODE=S033R99

NODE=S033R73;LINKAGE=B

NODE=S033R73;LINKAGE=C

NODE=S033R73;LINKAGE=A

$\Gamma(\Lambda\mu^+\nu_\mu)/\Gamma(pK^-\pi^+)$					Γ_{66}/Γ_2
VALUE	DOCUMENT ID	TECN	COMMENT		
0.39±0.08 OUR AVERAGE					NODE=S033R74 NODE=S033R74
0.40±0.09	14,15 BERGFELD	94	CLE2 $e^+e^- \approx \gamma(4S)$		
0.35±0.20	15,16 ALBRECHT	91G	ARG $e^+e^- \approx 10.4 \text{ GeV}$		
14 BERGFELD 94 measures $\sigma(e^+e^- \rightarrow \Lambda_c^+ X) \cdot B(\Lambda_c^+ \rightarrow \Lambda\mu^+\nu_\mu) = (4.43 \pm 0.51 \pm 0.64) \text{ pb.}$					NODE=S033R74;LINKAGE=B
15 To extract $\Gamma(\Lambda_c^+ \rightarrow \Lambda\mu^+\nu_\mu)/\Gamma(\Lambda_c^+ \rightarrow pK^-\pi^+)$, we use $\sigma(e^+e^- \rightarrow \Lambda_c^+ X) \cdot B(\Lambda_c \rightarrow pK^-\pi^+) = (11.2 \pm 1.3) \text{ pb}$, which is the weighted average of measurements from ARGUS (ALBRECHT 96E) and CLEO (AVERY 91).					NODE=S033R74;LINKAGE=C
16 ALBRECHT 91G measures $\sigma(e^+e^- \rightarrow \Lambda_c^+ X) \cdot B(\Lambda_c^+ \rightarrow \Lambda\mu^+\nu_\mu) = (3.91 \pm 2.02 \pm 0.90) \text{ pb.}$					NODE=S033R74;LINKAGE=A

Inclusive modes

$\Gamma(e^+\text{ anything})/\Gamma_{\text{total}}$					Γ_{67}/Γ
VALUE	DOCUMENT ID	TECN	COMMENT		
0.045±0.017	VELLA	82	MRK2 $e^+e^- 4.5\text{--}6.8 \text{ GeV}$		NODE=S033320

$\Gamma(pe^+\text{ anything})/\Gamma_{\text{total}}$					Γ_{68}/Γ
VALUE	DOCUMENT ID	TECN	COMMENT		
0.018±0.009	17 VELLA	82	MRK2 $e^+e^- 4.5\text{--}6.8 \text{ GeV}$		NODE=S033R17 NODE=S033R17

17 VELLA 82 includes protons from Λ decay.

$\Gamma(\Lambda e^+\text{ anything})/\Gamma_{\text{total}}$					Γ_{69}/Γ
VALUE	DOCUMENT ID	TECN	COMMENT		
• • • We do not use the following data for averages, fits, limits, etc. • • •					NODE=S033R19 NODE=S033R19
0.011±0.008	18 VELLA	82	MRK2 $e^+e^- 4.5\text{--}6.8 \text{ GeV}$		

18 VELLA 82 includes Λ 's from Σ^0 decay.

$\Gamma(p\text{ anything})/\Gamma_{\text{total}}$					Γ_{70}/Γ
VALUE	DOCUMENT ID	TECN	COMMENT		
0.50±0.08±0.14	19 CRAWFORD	92	CLEO $e^+e^- 10.5 \text{ GeV}$		NODE=S033R59 NODE=S033R59

19 This CRAWFORD 92 value includes protons from Λ decay. The value is model dependent, but account is taken of this in the systematic error.

$\Gamma(p\text{ anything (no } \Lambda))/\Gamma_{\text{total}}$					Γ_{71}/Γ
VALUE	DOCUMENT ID	TECN	COMMENT		
0.12±0.10±0.16	CRAWFORD	92	CLEO $e^+e^- 10.5 \text{ GeV}$		NODE=S033R60 NODE=S033R60

$\Gamma(n\text{ anything})/\Gamma_{\text{total}}$					Γ_{73}/Γ
VALUE	DOCUMENT ID	TECN	COMMENT		
0.50±0.08±0.14	20 CRAWFORD	92	CLEO $e^+e^- 10.5 \text{ GeV}$		NODE=S033R61 NODE=S033R61

20 This CRAWFORD 92 value includes neutrons from Λ decay. The value is model dependent, but account is taken of this in the systematic error.

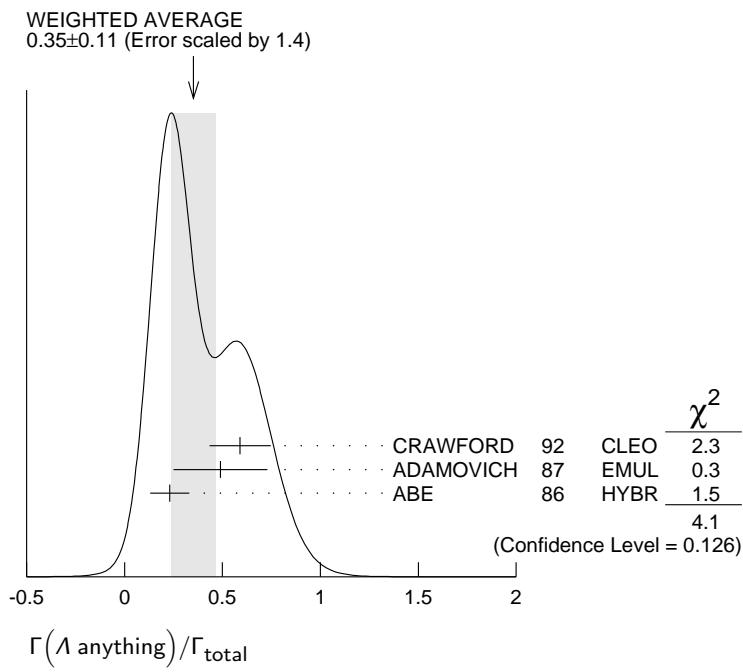
$\Gamma(n\text{ anything (no } \Lambda))/\Gamma_{\text{total}}$					Γ_{74}/Γ
VALUE	DOCUMENT ID	TECN	COMMENT		
0.29±0.09±0.15	CRAWFORD	92	CLEO $e^+e^- 10.5 \text{ GeV}$		NODE=S033R62 NODE=S033R62

$\Gamma(p\text{ hadrons})/\Gamma_{\text{total}}$					Γ_{72}/Γ
VALUE	DOCUMENT ID	TECN	COMMENT		
• • • We do not use the following data for averages, fits, limits, etc. • • •					NODE=S033R25 NODE=S033R25
0.41±0.24	ADAMOVICH	87	EMUL $\gamma A 20\text{--}70 \text{ GeV}/c$		

$\Gamma(\Lambda\text{ anything})/\Gamma_{\text{total}}$					Γ_{75}/Γ
VALUE	EVTS	DOCUMENT ID	TECN	COMMENT	
0.35±0.11 OUR AVERAGE	Error includes scale factor of 1.4. See the ideogram below.				NODE=S033R21 NODE=S033R21
0.59±0.10±0.12		CRAWFORD	92	CLEO $e^+e^- 10.5 \text{ GeV}$	
0.49±0.24		ADAMOVICH	87	EMUL $\gamma A 20\text{--}70 \text{ GeV}/c$	
0.23±0.10	8	21 ABE	86	HYBR 20 GeV γp	

²¹ ABE 86 includes Λ 's from Σ^0 decay.

NODE=S033R21;LINKAGE=A



$\Gamma(\Sigma^\pm \text{ anything})/\Gamma_{\text{total}}$

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT	Γ_{76}/Γ
0.1±0.05	5	ABE	86	HYBR 20 GeV γp	NODE=S033R22 NODE=S033R22

$\Gamma(3\text{prongs})/\Gamma_{\text{total}}$

VALUE	DOCUMENT ID	TECN	COMMENT	Γ_{77}/Γ
0.24±0.07±0.04	KAYIS-TOPAK.03	CHRS	ν_μ emulsion, $\bar{E}=27$ GeV	NODE=S033R91 NODE=S033R91

Rare or forbidden modes

$\Gamma(p e^+ e^-)/\Gamma_{\text{total}}$

A test for the $\Delta C=1$ weak neutral current. Allowed by higher-order electroweak interactions.

VALUE	CL%	EVTS	DOCUMENT ID	TECN	COMMENT	Γ_{78}/Γ
<5.5 × 10⁻⁶	90	4.0 ± 7.1	LEES	11G BABR	$e^+ e^- \approx \gamma(4S)$	NODE=S033R05 NODE=S033R05

$\Gamma(p \mu^+ \mu^-)/\Gamma_{\text{total}}$

A test for the $\Delta C=1$ weak neutral current. Allowed by higher-order electroweak interactions.

VALUE	CL%	EVTS	DOCUMENT ID	TECN	COMMENT	Γ_{79}/Γ
<44 × 10⁻⁶	90	11.1 ± 5.6	LEES	11G BABR	$e^+ e^- \approx \gamma(4S)$	NODE=S033R65 NODE=S033R65

• • • We do not use the following data for averages, fits, limits, etc. • • •

$< 3.4 \times 10^{-4}$	90	0	KODAMA	95	E653 π^- emulsion 600 GeV
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$\Gamma(p e^+ \mu^-)/\Gamma_{\text{total}}$

A test of lepton family-number conservation.

VALUE	CL%	EVTS	DOCUMENT ID	TECN	COMMENT	Γ_{80}/Γ
<9.9 × 10⁻⁶	90	-0.7 ± 3.0	LEES	11G BABR	$e^+ e^- \approx \gamma(4S)$	NODE=S033R06 NODE=S033R06 NODE=S033R06

$\Gamma(p e^- \mu^+)/\Gamma_{\text{total}}$

A test of lepton family-number conservation.

VALUE	CL%	EVTS	DOCUMENT ID	TECN	COMMENT	Γ_{81}/Γ
<19 × 10⁻⁶	90	6.2 ± 4.9	LEES	11G BABR	$e^+ e^- \approx \gamma(4S)$	NODE=S033R07 NODE=S033R07 NODE=S033R07

$\Gamma(\bar{p}2e^+)/\Gamma_{\text{total}}$

A test of lepton- and baryon-number conservation.

VALUE	CL%	EVTS	DOCUMENT ID	TECN	COMMENT	Γ_{82}/Γ
<2.7 × 10⁻⁶	90	-1.5 ± 4.5	LEES	11G BABR	$e^+ e^- \approx \gamma(4S)$	NODE=S033R08 NODE=S033R08 NODE=S033R08

$\Gamma(\bar{p}2\mu^+)/\Gamma_{\text{total}}$

A test of lepton- and baryon-number conservation and of lepton family-number conservation.

VALUE	CL%	EVTS	DOCUMENT ID	TECN	COMMENT
$<9.4 \times 10^{-6}$	90	0.0 ± 2.2	LEES	11G BABR	$e^+ e^- \approx \gamma(4S)$

 Γ_{83}/Γ

NODE=S033R09

NODE=S033R09

NODE=S033R09

 $\Gamma(\bar{p}e^+\mu^+)/\Gamma_{\text{total}}$ Γ_{84}/Γ

A test of lepton- and baryon-number conservation and of lepton family-number conservation.

VALUE	CL%	EVTS	DOCUMENT ID	TECN	COMMENT
$<16 \times 10^{-6}$	90	10.1 ± 6.8	LEES	11G BABR	$e^+ e^- \approx \gamma(4S)$

NODE=S033S01

NODE=S033S01

NODE=S033S01

 $\Gamma(\Sigma^-\mu^+\mu^+)/\Gamma_{\text{total}}$ Γ_{85}/Γ

A test of lepton-number conservation.

VALUE	CL%	EVTS	DOCUMENT ID	TECN	COMMENT
$<7.0 \times 10^{-4}$	90	0	KODAMA	95	E653 π^- emulsion 600 GeV

NODE=S033R66

NODE=S033R66

NODE=S033R66

 Λ_c^+ DECAY PARAMETERS

See the note on "Baryon Decay Parameters" in the neutron Listings.

 α FOR $\Lambda_c^+ \rightarrow \Lambda\pi^+$

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
-0.91 ± 0.15 OUR AVERAGE				
-0.78 $\pm 0.16 \pm 0.19$		LINK	06A FOCS	$\gamma A, \bar{E}_\gamma \approx 180$ GeV
-0.94 $\pm 0.21 \pm 0.12$	414	22 BISHAI	95 CLE2	$e^+ e^- \approx \gamma(4S)$
-0.96 ± 0.42		ALBRECHT	92 ARG	$e^+ e^- \approx 10.4$ GeV
-1.1 ± 0.4	86	AVERY	90B CLEO	$e^+ e^- \approx 10.6$ GeV

22 BISHAI 95 actually gives $\alpha = -0.94^{+0.21+0.12}_{-0.06-0.06}$, chopping the errors at the physical limit -1.0. However, for $\alpha \approx -1.0$, some experiments should get unphysical values ($\alpha < -1.0$), and for averaging with other measurements such values (or errors that extend below -1.0) should *not* be chopped.

 α FOR $\Lambda_c^+ \rightarrow \Sigma^+\pi^0$

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
$-0.45 \pm 0.31 \pm 0.06$	89	BISHAI	95	CLE2 $e^+ e^- \approx \gamma(4S)$

 α FOR $\Lambda_c^+ \rightarrow \Lambda\ell^+\nu_\ell$

The experiments don't cover the complete (or same incomplete) $M(\Lambda\ell^+)$ range, but we average them together anyway.

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
-0.86 ± 0.04 OUR AVERAGE				

-0.86 $\pm 0.03 \pm 0.02$	3201	23 HINSON	05 CLEO	$e^+ e^- \approx \gamma(4S)$
-0.91 $\pm 0.42 \pm 0.25$		24 ALBRECHT	94B ARG	$e^+ e^- \approx 10$ GeV

• • • We do not use the following data for averages, fits, limits, etc. • • •

-0.82 $^{+0.09+0.06}_{-0.06-0.03}$	700	25 CRAWFORD	95 CLE2	See HINSON 05
-0.89 $^{+0.17+0.09}_{-0.11-0.05}$	350	26 BERGFELD	94 CLE2	See CRAWFORD 95

23 HINSON 05 measures the form-factor ratio $R \equiv f_2/f_1$ for $\Lambda_c^+ \rightarrow \Lambda e^+ \nu_e$ events to be $-0.31 \pm 0.05 \pm 0.04$ and the pole mass to be $2.21 \pm 0.08 \pm 0.14$ GeV/c², and from these calculates α , averaged over q^2 , where $\langle q^2 \rangle = 0.67$ (GeV/c)².

24 ALBRECHT 94B uses Λe^+ and $\Lambda \mu^+$ events in the mass range $1.85 < M(\Lambda\ell^+) < 2.20$ GeV.

25 CRAWFORD 95 measures the form-factor ratio $R \equiv f_2/f_1$ for $\Lambda_c^+ \rightarrow \Lambda e^+ \nu_e$ events to be $-0.25 \pm 0.14 \pm 0.08$ and from this calculates α , averaged over q^2 , to be the above.

26 BERGFELD 94 uses Λe^+ events.

NODE=S033ALS

NODE=S033ALS

NODE=S033ALC

NODE=S033ALC

NODE=S033ALC

NODE=S033ALC;LINKAGE=HI

NODE=S033ALC;LINKAGE=A

NODE=S033ALC;LINKAGE=C

NODE=S033ALC;LINKAGE=B

NODE=S033240

NODE=S033AC1

NODE=S033AC1

NODE=S033AC1

 $\Lambda_c^+, \bar{\Lambda}_c^-$ CP-VIOLATING DECAY ASYMMETRIES $(\alpha + \bar{\alpha})/(\alpha - \bar{\alpha})$ in $\Lambda_c^+ \rightarrow \Lambda\pi^+, \bar{\Lambda}_c^- \rightarrow \bar{\Lambda}\pi^-$

This is zero if CP is conserved.

VALUE	DOCUMENT ID	TECN	COMMENT
$-0.07 \pm 0.19 \pm 0.24$	LINK	06A FOCS	$\gamma A, \bar{E}_\gamma \approx 180$ GeV

($\alpha + \bar{\alpha}$)/($\alpha - \bar{\alpha}$) in $\Lambda_c^+ \rightarrow \Lambda e^+ \nu_e, \bar{\Lambda}_c^- \rightarrow \bar{\Lambda} e^- \bar{\nu}_e$

This is zero if *CP* is conserved.

VALUE	DOCUMENT ID	TECN	COMMENT
0.00±0.03±0.02	HINSON	05	CLEO $e^+ e^- \approx \gamma(4S)$

Λ_c^+ REFERENCES

We have omitted some papers that have been superseded by later experiments. The omitted papers may be found in our 1992 edition (Physical Review **D45**, 1 June, Part II) or in earlier editions.

LEES	11G	PR D84 072006	J.P. Lees <i>et al.</i>	(BABAR Collab.)	REFID=53808
VAZQUEZ-JA...	08	PL B666 299	E. Vazquez-Jauregui <i>et al.</i>	(SELEX Collab.)	REFID=52465
AUBERT	07U	PR D75 052002	B. Aubert <i>et al.</i>	(BABAR Collab.)	REFID=51734
LINK	06A	PL B634 165	J.M. Link <i>et al.</i>	(FNAL FOCUS Collab.)	REFID=51050
AUBERT,B	05S	PR D72 052006	B. Aubert <i>et al.</i>	(BABAR Collab.)	REFID=50895
HINSON	05	PR D 94 191801	J.W. Hinson <i>et al.</i>	(CLEO Collab.)	REFID=50605
LINK	05F	PL B624 22	J.M. Link <i>et al.</i>	(FNAL FOCUS Collab.)	REFID=50570
LINK	05K	PL B624 166	J.M. Link <i>et al.</i>	(FNAL FOCUS Collab.)	REFID=50833
CRONIN-HEN...	03	PR D67 012001	D. Cronin-Hennessy <i>et al.</i>	(CLEO Collab.)	REFID=49261
KAYIS-TOPAK..	03	PL B555 156	A. Kayis-Topaksu <i>et al.</i>	(CERN CHORUS Collab.)	REFID=49253
ABE	02C	PL B524 33	K. Abe <i>et al.</i>	(KEK BELLE Collab.)	REFID=48523
LINK	02C	PRL 88 161801	J.M. Link <i>et al.</i>	(FNAL FOCUS Collab.)	REFID=48664
LINK	02G	PL B540 25	J.M. Link <i>et al.</i>	(FNAL FOCUS Collab.)	REFID=48774
PDG	02	PR D66 010001	K. Hagiwara <i>et al.</i>		REFID=48632
KUSHNIR...	01	PRL 86 5243	A. Kushnirenko <i>et al.</i>	(FNAL SELEX Collab.)	REFID=48138
MAHMOOD	01	PR D 86 2232	A.H. Mahmood <i>et al.</i>	(CLEO Collab.)	REFID=48080
AITALA	00	PL B471 449	E.M. Aitala <i>et al.</i>	(FNAL E791 Collab.)	REFID=47442
JAFFE	00	PR D62 072005	D.E. Jaffe <i>et al.</i>	(CLEO Collab.)	REFID=47765
ALAM	98	PR D57 4467	M.S. Alam <i>et al.</i>	(CLEO Collab.)	REFID=46036
ALBRECHT	96E	PRPL 276 223	H. Albrecht <i>et al.</i>	(ARGUS Collab.)	REFID=44953
ALEEV	96	JINRRC 3-77 31	A.N. Aleev <i>et al.</i>	(Serpukhov EXCHARM Collab.)	REFID=45379
ALEXANDER	96C	PR D53 R1013	J.P. Alexander <i>et al.</i>	(CLEO Collab.)	REFID=44657
ALBRECHT	95B	PL B342 397	H. Albrecht <i>et al.</i>	(ARGUS Collab.)	REFID=44117
AMMAR	95	PRL 74 3534	R. Ammar <i>et al.</i>	(CLEO Collab.)	REFID=44200
BISHAI	95	PL B350 256	M. Bishai <i>et al.</i>	(CLEO Collab.)	REFID=44270
CRAWFORD	95	PR D 75 624	G. Crawford <i>et al.</i>	(CLEO Collab.)	REFID=44346
KODAMA	95	PL B345 85	K. Kodama <i>et al.</i>	(FNAL E653 Collab.)	REFID=44124
ALBRECHT	94B	PL B326 320	H. Albrecht <i>et al.</i>	(ARGUS Collab.)	REFID=43889
ALEEV	94	PAN 57 1370	A.N. Aleev <i>et al.</i>	(Serpukhov BIS-2 Collab.)	REFID=44000
Translated from YF 57 1443.					
AVERY	94	PL B325 257	P. Avery <i>et al.</i>	(CLEO Collab.)	REFID=43683
BERGFELD	94	PL B323 219	T. Bergfeld <i>et al.</i>	(CLEO Collab.)	REFID=43800
FRABETTI	94E	PL B328 193	P.L. Frabetti <i>et al.</i>	(FNAL E687 Collab.)	REFID=43835
AVERY	93	PR D 71 2391	P. Avery <i>et al.</i>	(CLEO Collab.)	REFID=43501
BOZEK	93	PL B312 247	A. Bozek <i>et al.</i>	(CERN NA32 Collab.)	REFID=43442
FRABETTI	93D	PR D 70 1755	P.L. Frabetti <i>et al.</i>	(FNAL E687 Collab.)	REFID=43271
FRABETTI	93H	PL B314 477	P.L. Frabetti <i>et al.</i>	(FNAL E687 Collab.)	REFID=43504
KUBOTA	93	PRL 71 3255	Y. Kubota <i>et al.</i>	(CLEO Collab.)	REFID=43572
ALBRECHT	92	PL B274 239	H. Albrecht <i>et al.</i>	(ARGUS Collab.)	REFID=41914
ALBRECHT	92O	ZPHY C56 1	H. Albrecht <i>et al.</i>	(ARGUS Collab.)	REFID=43148
BARLAG	92	PL B283 465	S. Barlag <i>et al.</i>	(ACCMOR Collab.)	REFID=42054
CRAWFORD	92	PR D45 752	G. Crawford <i>et al.</i>	(CLEO Collab.)	REFID=42008
JEZABEK	92	PL B286 175	M. Jezabek, K. Rybicki, R. Rylko	(CRAC)	REFID=42158
ALBRECHT	91G	PL B269 234	H. Albrecht <i>et al.</i>	(ARGUS Collab.)	REFID=41742
AVERY	91	PR D43 3599	P. Avery <i>et al.</i>	(CLEO Collab.)	REFID=41503
ALVAREZ	90	ZPHY C47 539	M.P. Alvarez <i>et al.</i>	(CERN NA14/2 Collab.)	REFID=41311
ALVAREZ	90B	PL B246 256	M.P. Alvarez <i>et al.</i>	(CERN NA14/2 Collab.)	REFID=41333
ANJOS	90	PR D41 801	J.C. Anjos <i>et al.</i>	(FNAL E691 Collab.)	REFID=41046
AVERY	90B	PR D 65 2842	P. Avery <i>et al.</i>	(CLEO Collab.)	REFID=41397
BARLAG	90D	ZPHY C48 29	S. Barlag <i>et al.</i>	(ACCMOR Collab.)	REFID=41313
FRABETTI	90	PL B251 639	P.L. Frabetti <i>et al.</i>	(FNAL E687 Collab.)	REFID=41441
BARLAG	89	PL B218 374	S. Barlag <i>et al.</i>	(ACCMOR Collab.)	REFID=40722
AGUILAR...	88B	ZPHY C40 321	M. Aguilar-Benitez <i>et al.</i>	(LEBC-EHS Collab.)	REFID=40699
Also		PL B189 254	M. Aguilar-Benitez <i>et al.</i>	(LEBC-EHS Collab.)	REFID=40182
Also		PL B199 462	M. Aguilar-Benitez <i>et al.</i>	(LEBC-EHS Collab.)	REFID=40276
Also		SJNP 48 833	M. Begalli <i>et al.</i>	(LEBC-EHS Collab.)	REFID=40778
Translated from YAF 48 1310.					
ALBRECHT	88C	PL B207 109	H. Albrecht <i>et al.</i>	(ARGUS Collab.)	REFID=40547
ANJOS	88B	PR D 60 1379	J.C. Anjos <i>et al.</i>	(FNAL E691 Collab.)	REFID=40471
ADAMOVICH	87	EPL 4 887	M.I. Adamovich <i>et al.</i>	(Photon Emulsion Collab.)	REFID=40292
Also		SJNP 46 447	F. Viaggi <i>et al.</i>	(Photon Emulsion Collab.)	REFID=40596
Translated from YAF 46 799.					
AMENDOLIA	87	ZPHY C36 513	S.R. Amendolia <i>et al.</i>	(CERN NA1 Collab.)	REFID=40293
JONES	87	ZPHY C36 593	G.T. Jones <i>et al.</i>	(CERN WA21 Collab.)	REFID=40274
ABE	86	PR D33 1	K. Abe <i>et al.</i>		REFID=11475; ERROR=1
ALEEV	84	ZPHY C23 333	A.N. Alevy <i>et al.</i>	(BIS-2 Collab.)	REFID=12136
BOSETTI	82	PL 109B 234	P.C. Bosetti <i>et al.</i>	(AACH3, BONN, CERN+)	REFID=12128
VELLA	82	PRL 48 1515	E. Vella <i>et al.</i>	(SLAC, LBL, UCB)	REFID=12131
BASILE	81B	NC 62A 14	M. Basile <i>et al.</i>	(CERN, BGNA, PGIA, FRAS)	REFID=12122
CALICCHIO	80	PL 93B 521	M. Calicchio <i>et al.</i>	(BARI, BIRM, BRUX+)	REFID=12116

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